

February 10, 2004

MEMORANDUM TO: L. Raghavan, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: John G. Lamb, Project Manager, Section 1 /RA/
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: MEETING SUMMARY BETWEEN THE NUCLEAR REGULATORY
COMMISSION STAFF, WESTINGHOUSE OWNERS GROUP, AND
NUCLEAR ENERGY INSTITUTE CONCERNING BULLETIN 2003-01,
"POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY
SUMP RECIRCULATION AT PRESSURIZED-WATER REACTORS,"
AND GENERIC SAFETY ISSUE (GSI) 191, "ASSESSMENT OF DEBRIS
ACCUMULATION ON [PRESSURIZED-WATER REACTOR] PWR
SUMP PERFORMANCE" (TAC NO. MA6454)

On January 22, 2004, the Nuclear Regulatory Commission (NRC) staff met with the Westinghouse Owners Group (WOG), Nuclear Energy Institute (NEI), and other stakeholders at NRC Headquarters concerning Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors [PWRs]," dated June 9, 2003, (ADAMS Accession No. ML031600259); and Generic Safety Issue (GSI) 191, "Assessment of Debris Accumulation on PWR Sump Performance." Attachment 1 lists the meeting attendees. A public meeting notice was issued on January 2, 2004, and was posted on the NRC's external (public) web page (ADAMS Accession No. ML033510845). A revised public meeting notice was issued on January 9, 2004, and was posted on the NRC's external (public) web page (ADAMS Accession No. ML040090130), which changed the start time and added an agenda item to the meeting. The notices included the meeting agenda. The January 22, 2004, meeting fulfilled a commitment that the NRC staff made at a November 19, 2003, public meeting, which was stated in the Meeting Summary dated December 16, 2003 (ADAMS Accession No. ML033370003). In addition, the NRC Public Meeting Feedback forms from the November 18, 2003, public meeting stated that a larger conference room was needed for future meetings. The NRC staff addressed this issue by holding the January 22, 2004, public meeting in Conference Room T-2B3, which can hold up to 100 people.

The purpose of the meeting was to discuss the WOG activities regarding candidate operator actions for the generic emergency response guidelines and the status of those activities, and to discuss with NEI the potential licensing actions to reduce risk.

This was a Category 2 Meeting. The public was invited to participate in the meeting by discussing regulatory issues with the NRC at a designated point identified on the agenda.

The overall agenda for this meeting consisted of (1) opening remarks and introductions, (2) the status of the WOG candidate operator actions in the generic emergency response guidelines, (3) NEI discussion regarding the potential licensing actions, and (4) questions or comments from stakeholders.

Attachment 2, "Evaluation of Potential Changes to Operational Guidance in Response to NRC Bulletin 2003-01 Recommendations," was used during WOG's presentation. WOG recommended a series of actions that Westinghouse and Combustion Engineering (CE) PWR operators can take to reduce the risk of containment sump blockage from debris generated during a loss-of-coolant accident (LOCA). The WOG recommendations were chosen to allow for an increase in time to the switchover to recirculation of coolant from the containment sump following a LOCA and to reduce the velocity of recirculation through the sump. The WOG presented 11 Candidate Operator Actions (COAs) that they evaluated for inclusion in the generic Emergency Response Guidelines (ERGs).

Of 11 possible COAs that the WOG said it considered for its recommendations, two COAs were rejected because the WOG determined there was not enough time for operator recognition of, and response to, a failure in the remaining active train of the low-pressure safety injection (LPSI) or high-pressure safety injection (HPSI). The two COAs that were rejected were (1) the termination of one train of the LPSI in CE PWRs prior to recirculation of coolant from the containment following a LOCA, and (2) termination of one train of the HPSI for Westinghouse and CE PWRs prior to recirculation. The WOG stated that these two COAs could result in potentially unacceptable consequences.

The 8 of 11 COAs that were deemed to be acceptable by the WOG were (1) early termination of containment spray; (2) staggered initiation of sump recirculation; (3) termination of one train of HPSI after recirculation; (4) refilling the refueling water storage tanks; (5) injection of more than one refueling water storage tank volume or an alternate source bypassing the refueling water storage tank; (6) provide more aggressive cooldown and depressurization guidance for small break LOCAs; (7) provide guidance on symptoms and identification of containment sump blockage; and (8) develop contingency actions to be taken in response to containment sump blockage.

A final COA was the delay of containment spray actuation for small-break LOCAs which was applicable only to Westinghouse ice condenser plants. The WOG recommended this COA with the caveat that licensees would need to seek a change to their design-basis in order to implement it.

The WOG said its recommendations will be presented in a generic form to its members. The WOG also stated that it recognized there are plant-specific considerations that will need to be accounted for if a licensee chooses to implement a specific recommendation. The WOG will issue Revision 0 of the recommendations for WOG plant-specific use in February 2004. The WOG also mentioned that validation of generic emergency response guideline changes for CE plants will be conducted at Calvert Cliffs on February 17 and 18, 2004. The WOG completed validation of generic emergency response guideline changes for Westinghouse plants at Harris on January 29, 2004. The results of the validation tests will be included in a reissue of the WOG recommendations, which is expected to occur on March 31, 2004. The work being done at Calvert Cliffs and the work completed at Harris will validate or has validated the conclusions that the recommendations could potentially reduce the risk of sump blockage following a LOCA.

At the conclusion of the business portion of the meeting, the NRC staff invited the public to ask questions of the NRC staff or make comments that they feel are appropriate. The Union of Concerned Scientists (UCS) questioned why the NRC staff was spending time on the interim compensatory measures instead of focusing all of its resources on arriving at a final solution to GSI-191. UCS expressed concern that if the WOG recommendations were shown to lower the risk of sump blockage from debris buildup on the sump screen, the NRC staff would relax its efforts and delay its final resolution of GSI-191. The NRC staff stated that GSI-191 is still on track to be completed in December 2007. UCS also questioned why, if the risk of sump blockage were significant enough for the NRC staff to spend time reviewing interim compensatory measures, the NRC staff was not working to accelerate the current schedule for a final resolution of GSI-191. The NRC staff stated that it had no intention of letting the resolution date slip and said the number of people working on the resolution has significantly increased to ensure that the final resolution schedule is met. The NRC staff stated that it is working in parallel on reviewing bulletin responses, working on the generic letter, reviewing the NEI sump evaluation guidance, and working with the Office of Nuclear Regulatory Research on research related to sump blockage.

In closing the meeting, the NRC staff reminded the participants of the NRC Public Meeting Feedback form and encouraged them to complete the form and mail it into the NRC.

Attachments: 1. Meeting Attendees
2. "Evaluation of Potential Changes to Operational Guidance in Response to NRC Bulletin 2003-01 Recommendations"

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2. "Evaluation of Potential Changes to Operational Guidance in Response to NRC Bulletin 2003-01 Recommendations"

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ADAMS Accession Nos. ML040340055 (Meeting Summary)

ML040430256 (Attachment 2)

ML040340137 (Package)

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LIST OF ATTENDEES MEETING REGARDING
BULLETIN 2003-01, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY SUMP
RECIRCULATION AT PRESSURIZED-WATER REACTORS." AND GENERIC SAFETY ISSUE 191,
"ASSESSMENT OF DEBRIS ACCUMULATION ON PWR SUMP PERFORMANCE"
THURSDAY, JANUARY 22, 2004

<u>NAME</u>	<u>ORGANIZATION</u>
J. Lamb	NRC/NRR/DLPM
S. Burnell	NRC/OPA
J. Winters	Westinghouse
J. Congdon	Westinghouse
M. Marshall	NRC/NRR/DLPM
T. Andreychek	Westinghouse
B. Bryan	TVA
N. Chapman	SERCH/Bechtel
C. Feist	TXU Energy
M. Dingler	WCNOC/WOG
S. Lavie	NRC/NRR/DSSA
R. Oakley	Duke Energy
G. Kent	Duke Energy
R. Architzel	NRC/NRR/DSSA
W. Lyon	NRC/NRR/DSSA
S. Unikewicz	NRC/NRR/DE
R. Elliott	NRC/NRR/DSSA
M. Kowal	NRC/NRR/DSSA
J. Bleigh	PCI
J. Walker	Framatone
J. Butler	Nuclear Energy Institute
T. Pietrangelo	Nuclear Energy Institute
S. Weerakkody	NRC/NRR/DSSA
A. Lavretta	NRC/NRR/DSSA
C. Collet	NRC/OIG
J. Lee	NRC/NRR/DSSA
G. Twactman	McGraw-Hill
D. Lochbaum	Union of Concerned Scientists
M. Johnson	NRC/NRR/DSSA
J. Hannon	NRC/NRR/DSSA
T. Y. Chang	NRC/RES/DET
B. Davenport	Exelon
A. Wang	NRC/NRR/DLPM
*B. Letellier	Los Alamos National Lab
*D. Raleigh	Lis. Sciencetech
*M. Friedman	Omaha Pub. Power Dist.
*F. Lake	Omaha Pub. Power Dist.
*T. Barm	Omaha Pub. Power Dist.
*B. Lucas	Omaha Pub. Power Dist.
*D. Bonsall	Omaha Pub. Power Dist.

*Participated via teleconference

NRR = Office of Nuclear Reactor Regulation
DLPM = Division of Licensing Project Management
DSSA = Division of Systems Safety and Analysis
OIG = Office of Inspector General
DE = Division of Engineering
RES = Office of Nuclear Regulatory Research
DET = Division of Engineering Technology
OPA = Office of Public Affairs

ATTACHMENT 1